received. The stored RSIMs form the queue of the RSIMs according to the queuing algorithm at the micro control part 30. In FIG. 3, the transmission time point value SFNtx of the RSIM in the queue of the RSIMs is assumed one. It is also assumed that a time point the RSIM generated by the second block segment in the master information block is transmitted to the air is 102, and the time point the RSIM generated by the second block segment in the second system information block is transmitted to the air is 104. The current time point is assumed to be SFN=100, and it is assumed that the RSIMs queue is in an order of earliest transmission with reference to the current time point together with other RSIM generated by the information thereof. Under the foregoing assumptions, it is assumed that the preset time interval 20ms is occurred at a moment the SFNcur value is 102, to cause to occur a timer event. When the timer event is occurred as the 20ms is elapsed from the reference time point (SFNcur = 100), the base station takes out a first queue element from the queue of the RSIMs, and compares the transmission time point SFNtx 102 of the element to the current time point SFNcur. In this instance, since the transmission time point SFNtx and the current time point SFNcur have the same values, the RSIM, the RSIM generated by the second master information block in the queue corresponding to the first queue element, is transmitted to the air through the second signal processing part 50 in FIG. 2. When the RSIM generated by the second block segment in the master information block is transmitted, the micro control part 30 calculates the next transmission time point SFNtx the RSIM generated by the second block segment in the master information block is to be transmitted by substituting 102 for SFNtx(i) in equation (4). It is assumed that the next transmission time point SFNtx the RSIM generated by the second block segment in the master information block is to be transmitted SFNtx(i+1) calculated in this time is 108 in FIG. 4. Therefore, as shown in FIG. 4, the second transmission time point SFNtx=108 is substituted for the first transmission time

point SFNtx=102 within the queue. Then, the micro control part 30 forms a new queue of the RSIMs taking the transmission time points SFNtx of other RSIMs into accounts, inclusive of the second transmission time point SFNtx=108 for the RSIM generated by the second block segment of the master information block. As explained, in the new queue of the RSIMs, since the elements, the RSIMs, are queued in the order of earliest transmission based on the transmission time points the queue in FIG. 3 is changed to the queue in FIG. 4.

[038] FIG. 4 illustrates a diagram showing a next transmission time SFNtx is calculated after the SRIM generated by the second block segment in a master information block is transmitted at a transmission time point SFN=102, and the next transmission time SFNtx is inserted in the queue, again.

[039] Referring to FIG. 4, the element indicating the RSIM generated by the second block segment in the master information block with reference to the transmission time point is inserted at a second time in succession to the transmission time point SFNtx=104 in the new queue. That is, the base station queues the RSIMs in the order of earliest transmission to the air after the current time point SFNcur. Basically, the transmission time points SFNtx are queued in the queue in an ascending order. However, because the RSIM, or the RSIMs each having a transmission time point greater than the current time point SFNcur are required to be transmitted before the RSIM, or the RSIMs each having a transmission time point smaller than the current time point SFNcur, the RSIM, or the RSIMs each having a transmission time point greater than the current time point SFNcur are positioned forward of the RSIM, or the RSIMs each having a transmission time point smaller than the current time point SFNcur in the queue.

[040] As has been explained, the method for implementing a system information broadcasting function in an asynchronous mobile communication system of the present

invention has the following advantages.

[041] The base station calculates transmission time points of the RSIMs to the air in advance, and queues the RSIMs in the order of earliest transmission with reference to the current time point. Then, the base station compares the time point and the transmission time point of the RSIM to be transmitted the earliest only, to determine transmission of the RSIM at every 20ms time interval. Therefore, since only one comparison occurs at every 20ms, a processing time period required for carrying out the system information broadcasting function can be saved.

It will be apparent to those skilled in the art that various modifications and variations can be made in the method for implementing a system information broadcasting function in an asynchronous mobile communication system of the present invention without departing from the spirit or scope of the invention. Thus, it is intended that the present invention cover the modifications and variations of this invention provided they come within the scope of the appended claims and their equivalents.